REMARKS

Applicant respectfully requests reconsideration and allowance of claims 1-30 that are pending in the above-identified patent application. Claims 1-15, 18-21, 24-26 and 29-30 are currently amended. In view of the following discussion, Applicant submits that all pending claims are in condition for allowance. No new matter is introduced by the way of these amendments.

Claim Objections

At page 2 of the Office Action, the Examiner has objected to claim 4 due to a typographical error of "tasks." Applicant has since amended claim 4 to reflect Examiner's suggestions in order to overcome said informalities. Therefore, the claim's objection is rendered moot.

Claim Rejections under 35 U.S.C. § 112

At pages 2-6 of the Office Action, the Examiner has rejected claims 1-30 as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicant regards as the invention. Withdrawal of this rejection is requested in view of the aforementioned amendments to claims 1-30 made in accordance with the Examiner's suggestions. Particularly, Applicant has: removed the phrase "as appropriate" from the claims' language; amended real-timeness of processing to read "time-critical"; and amended "usage rate" to be "utilization." Therefore, the Applicant respectfully requests that the above rejections be withdrawn.

Claim Rejections under 35 U.S.C. § 101

At pages 6-7 of the Office Action, the Examiner has rejected claims 6-13, 24-25, and 29-30 as allegedly claiming an invention that is directed to non-statutory subject matter. Applicant has amended claims 6 and 13 in order to recite a local memory that stores the control target table, per Examiner's instructions to include hardware. Claims 24 and 25 have been amended to recite a computer-readable storage medium that stores a program and a processor to execute the program, in order to meet the "machine or transformation test" as one of the guidelines of

patentability for 35 U.S.C. § 101. Therefore, the Applicant respectfully requests that the above rejections be withdrawn.

Claim Rejections under 35 U.S.C. § 103

At pages 7-9 of the Office Action, the Examiner has rejected claims 1, 4-5, 14, and 24-25 under 35 U.S.C. § 103(a) as being unpatentable over Gomi et al. (US Pat. No. 5,794,036). Applicant respectfully requests that this rejection be withdrawn as Gomi fails to teach or suggest all claimed aspects recited in amended claims 1, 4-5, 14, and 24-25. The reasons for patentability of claims 1, 4-5, 14, and 24-25 also apply with equal weight to claims 2-3 and 15-19, which are dependent of claims 1 and 14, respectively.

The claimed subject matter generally relates to a task management device and method for dividing tasks. In particular, independent claim 1 has been amended to recite, in part, a method of executing tasks comprising dividing a unit of processing time for executing tasks of a process by a processor into a reserved band for guaranteeing time-critical tasks and a non-reserved band for non-time-critical tasks and skipping a task to be executed in the non-reserved band when the throughput of a processor falls. A non-time-critical task is determined to be skipped by consulting a control target table, which determines how far to execute non-time-critical tasks in association with each other. Independent claims 4, 14, and 24-25 are directed to a task management method, integrated circuit, and computer-readable storage medium, respectively, and recite similar features.

Gomi et al. does not teach or suggest such aspects.

Gomi et al. does not disclose that a non-time-critical task will be determined to be skipped by consulting a control target table, which determines how far to execute non-time-critical tasks in association with each other. In Gomi et al., according to Figure 2, processings of type B and C, those that are non-real-time scheduling, are determined to be processed by a run flag indicator. Subsequently, the load control determines to process processings through the method of Figure 4 in Gomi et al, which evaluates the open space of the time slots. However, Gomi et al. is silent as to consulting a control target table. On the other hand, the claimed subject matter recites that non-time-critical tasks will be evaluated by consulting a control target table. Therefore, the reference of Gomi et al. does not disclose all claimed aspects of amended claim 1

11

Claims 4, 14, and 24-25 recite similar features as claim 1. Therefore, the deficiencies of Gomi et al. with regard to claim 1 also apply to amended claims 4, 14, and 24-25, respectively. Hence, Applicant respectfully requests that the Examiner's § 103 claim rejections be withdrawn with respect to claims 1, 4, 14, and 24-25 and the claims depending therefrom.

At pages 10-18 of the Office Action, the Examiner has rejected claims 2-3, 6-13, 15-23, and 26-30 under 35 U.S.C. § 103(a) as being unpatentable over Gomi et al. in view of Saito et al. (US Pat. No. 5,723,998). Applicant respectfully requests that this rejection be withdrawn as Gomi et al. in view of Saito et al., either alone or in combination, fails to teach or suggest all claimed aspects recited in claims 2-3, 6-13, 15-23, and 26-30. The reasons for patentability of amended independent claims 6, 13, 20, 21, and 26 also apply with equal weight to claims 7-12 and 29-30, claims 22-23, and claims 27-28, which are dependent of claims 6, 21, and 26, respectively.

Independent claim 6 has been amended to recite, in part, a task management device comprising: a local memory; a switch instruction unit, which issues an instruction to switch a plurality of tasks to be executed by a main processing unit; and a detection unit, which detects the throughput of the processor. The switch instruction unit divides a unit of processing time into a reserved band for guaranteeing time-critical tasks and a non-reserved band for non-time-critical tasks, and skips a task to be executed in the non-reserved band when the throughput of the main processing unit falls. A non-time-critical task is determined to be skipped by consulting a control target table stored in memory, which determines how far to execute non-time-critical tasks in association with each other. Independent claims 13, 20, 21, and 26 recite similar features.

Gomi et al. in view of Saito et al. does not teach or suggest such aspects.

First, Saito et al. does not disclose a detection unit that detects the throughput of the processor. The cited reference instead discloses "an operating speed measuring circuit [that] measures the switching speed of transistors constituting the processor, and [that] compares the measured switching speed with a predetermined value to generate a comparison result CMP" (See Saito et al., col. 5, lines 40-44). That is, the switching speed is measured, or how fast the transistors in Saito et al. can turn off and back on repeatedly. However, the present invention discloses that the throughput is measured, i.e., the rate of performance of the processor. The

switching speed of Saito et al. is not the same as the throughput of the present invention. Therefore, the operating speed-measuring circuit of Saito et al. cannot be comparable with the detection unit of the present invention because they both measure different things. Therefore, this aspect is not taught by Saito et al. in view of Gomi et al.

Second, Gomi et al. in view of Saito et al. does not disclose that a non-time-critical task will be determined to be skipped by consulting a control target table, which determines how far to execute non-time-critical tasks in association with each other. As stated above, in Gomi et al., according to Figure 2, processings of type B and C, those that are non-real-time scheduling, are determined to be processed by a run flag indicator. Subsequently, the load control determines to process processings through the method of Figure 4 in Gomi et al, which evaluates the open space of the time slots. Likewise, Saito et al. is silent as to consulting a control target table. In Saito et al., an interrupt processing is scheduled to remove tasks with low priority, as seen from Figure 9 of the reference, however, there is no mention in the reference of consulting a control target table. On the other hand, the claimed subject matter recites that non-time-critical tasks will be evaluated by consulting a control target table. Therefore, Gomi et al. and Saito et al. do not disclose all aspects of amended claim 6.

Claims 13 recite similar features as claim 6. Therefore, the deficiencies of Gomi et al. and Saito et al. with regard to claim 6 also apply to amended claim 13, respectively. Furthermore, claims 20, 21, and 26 recite the control target table aspect of claim 6, which is an aspect that Gomi et al. and Saito et al. do not teach or suggest. Hence, Applicant respectfully requests that the Examiner's § 103 claim rejections be withdrawn with respect to claims 6, 13, 20, 21, and 26 and the claims depending therefrom.

In view of the above, Applicant respectfully requests that Examiner's § 103(a) claim rejections be withdrawn.

Conclusion:

In view of the foregoing, Applicant submits that the instant claims are in condition for allowance. Early and favorable action is earnestly solicited. In the event there are any fees due and owing in connection with this matter, please charge same to our Deposit Account No. 11-0223.

Dated: November 30, 2010   Respectfully submitted,

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